

CLAIMS:

1. A method, comprising:
 - estimating a channel impulse response matrix;
 - creating a crosstalk suppression filter matrix based on said channel impulse response matrix; and
 - filtering a plurality of data streams received over a channel for a multiple input multiple output system to reduce far end cross talk between said data streams using said crosstalk suppression filter matrix.
2. The method of claim 1, wherein said channel impulse response matrix and said crosstalk suppression filter matrix have a substantially similar structure and matrix dimension.
3. The method of claim 1, wherein said estimating comprises:
 - estimating at least one channel characteristic for said channel;
 - approximating a plurality of channel impulse response values based on said channel characteristic; and
 - creating said channel impulse response matrix using said channel impulse response values.
4. The method of claim 1, wherein said creating comprises:
 - transposing said channel impulse response matrix;
 - substituting each element of said transposed channel impulse response matrix with its minor element; and

determining a sign for each minor element.

5. The method of claim 1, wherein each data stream comprises an inter-symbol interference signal.

6. The method of claim 1, further comprising equalizing each filtered data stream using a set of substantially similar equalization parameters.

7. A multiple input multiple output system, comprising:

a communications medium;

a plurality of transmitters to connect to said communications medium, with each transmitter to transmit a data stream over said communications medium using a communications channel;

a plurality of receivers to connect to said communications medium, said plurality of receivers to receive said data streams from said communications channel; and

a crosstalk filtering module to connect to said plurality of receivers, said crosstalk filtering module to filter said data streams to reduce far end crosstalk noise incurred by said data streams during said transmission.

8. The multiple input multiple output system of claim 8, further comprising a plurality of equalizers to connect to said filtering module, said equalizers to equalize said filtered data streams using a set of substantially similar equalization parameters.

9. The multiple input multiple output system of claim 8, further comprising a channel estimator to connect to said receivers, said channel estimator to estimate at least one channel characteristic for said channel.

10. The multiple input multiple output system of claim 8, wherein said crosstalk filtering module comprises:

- a channel impulse response matrix generator to generate a channel impulse response matrix;

- a crosstalk suppression filter matrix generator to generate a crosstalk suppression filter matrix using said channel impulse response matrix; and

- a filter to filter said data streams using said crosstalk suppression filter matrix.

11. An apparatus, comprising:

- a plurality of receivers to receive a plurality of data streams transmitted over a communications channel; and

- a crosstalk filtering module to connect to said plurality of receivers, said crosstalk filtering module to filter said data streams to reduce far end crosstalk noise incurred by said data streams during said transmission.

12. The apparatus of claim 11, wherein said crosstalk filtering module comprises:

- a channel impulse response matrix generator to generate a channel impulse response matrix;

- a crosstalk suppression filter matrix generator to generate a crosstalk suppression filter matrix using said channel impulse response matrix; and

- a filter to filter said data streams using said crosstalk suppression filter matrix.

13. The apparatus of claim 11, further comprising a channel estimator to connect to said receivers, said channel estimator to estimate at least one channel characteristic for said channel.

14. The apparatus of claim 13, wherein said channel impulse matrix generator is to connect to said channel estimator, and said channel impulse matrix generator is to use said at least one channel characteristic for said channel to generate said channel impulse matrix.

15. An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in estimating a channel impulse response matrix, creating a crosstalk suppression filter matrix based on said channel impulse response matrix, and filtering a plurality of data streams received over a channel for a multiple input multiple output system to reduce far end cross talk between said data streams using said crosstalk suppression filter matrix.

16. The article of claim 15, wherein the stored instructions, when executed by a processor, further result in said estimating by estimating at least one channel characteristic for said channel, approximating a plurality of channel impulse response values based on said channel characteristic, and creating said channel impulse response matrix using said channel impulse response values.

17. The article of claim 15, wherein the stored instructions, when executed by a processor, further result in said creating by transposing said channel impulse response matrix, substituting each element of said transposed channel impulse response matrix with its minor element, and determining a sign for each minor element.

18. The article of claim 15, wherein the stored instructions, when executed by a processor, further result in equalizing each filtered data stream using a set of substantially similar equalization parameters.